Meeting minutes 12- March-20001

Presents: J. Beebee-Wang, M. Blaskiewicz, N. Catalan-Lasheras, D. Davino, A. Fedotov, K. Gardner, H. Hahn, Y. Y. Lee, Y. Papaphilippou, G. Parzem, D. Raparia, A. Shishlo, N. Tsoupas, J. Wei, S.Y. Zhang

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1. News from Oak Ridge by J. Wei.
   - There was a review on accelerator and conventional facilities organized by N. Holtkamp and Y.L. Cho.
   - The discussion about loss distribution and its implication in egress locations continues: It has been suggested the substitution of the two egresses in the linac by only one. The egress at the north side in the collimation section to be removed.
   - There was a discussion with N. Holtkamp on the low field power supplies PCR. We need to document the physics behind every PCR.
   - S. Danilov implemented impedance in ORBIT and checked on instabilities. His simulations seem to agree with previous work by M. Blaskiewicz.
2. How to chose a working point in the SNS. G. Parzem has written a short note about the criteria to choose a working point specially applied to SNS. Attending up to fourth order structural resonances and imperfection resonances up to third order. He suggests to use the upper corner of the resonance free square Q=5.0 to 6.0. AF points out that the SNS ring has to avoid coupling resonances as well and we must use the lower part of the square. Also limitations in the lattice tune do not allow to go below Qx=6
3. Working point comparison by A. Fedotov
   - Qx=6.3 Qy=5.8 (Nominal) The beam crosses two structural fourth order resonances that are excited by the octupole-like fringe field of quadrupoles.
   - Qx=6.23 Qy=6.2 is free of structural resonances and only crosses two third order resonances. Due to the proximity to the integer resonance and a high space charge tune shift, it is limited on intensity. However it will make a very good commissioning working point.
   - Qx=6.4, Qy=6.3 seems a good candidate. The tuneprint only crosses two structural third order resonances (difference). AF increased artificially the b3 systematic error to excite these resonances and then add sextupoles for chromatic correction, fringe fields (only in quads), random errors and misalignments. The tails increase but not significantly in 1msec. Some correction can still be added including the optimization of the painting bump.
4. Booster studies. M. Blaskiewicz announce that work can start with the new flag in the extraction channel. We can work in the control room from 8 to 10 in the morning everyday
5. Length of the ferrite in the extraction kicker by D. Davino.
   Following an old paper by H. Hahn the longitudinal impedance coming from the ferrite itself can be reduced by splitting the ferrite in several pieces. The same result can be expected in the transverse plane. The feasibility and the limits imposed by mechanical engineering have to be checked.